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# The Fourth National Climate Assessment (NCA4)

## Status and Plans for Completion

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Presentation for the Federal Advisory Committee for Sustained Assessment

September 14, 2016



U.S. Global Change  
Research Program

# National Climate Assessment: GCRA (1990), Section 106

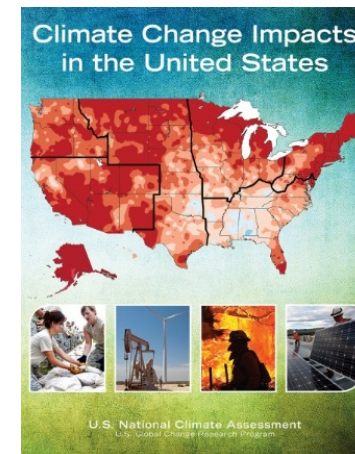
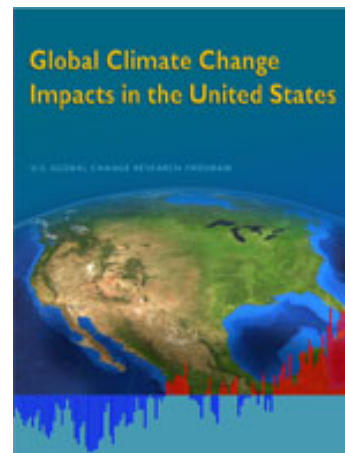
...not less frequently than every 4 years, the Council... shall prepare... an assessment which...

- **integrates, evaluates, and interprets** the findings of the Program (USGCRP) and discusses the scientific uncertainties associated with such findings;
- **analyzes the effects of global change** on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; and
- analyzes current trends in global change, both human- induced and natural, and **projects major trends for the subsequent 25 to 100 years.**



# National Climate Assessment Vision

To advance an **inclusive, broad-based, and sustained** process for assessing and communicating scientific knowledge of the impacts, risks, and vulnerabilities associated with a changing global climate in support of decision-making across the United States

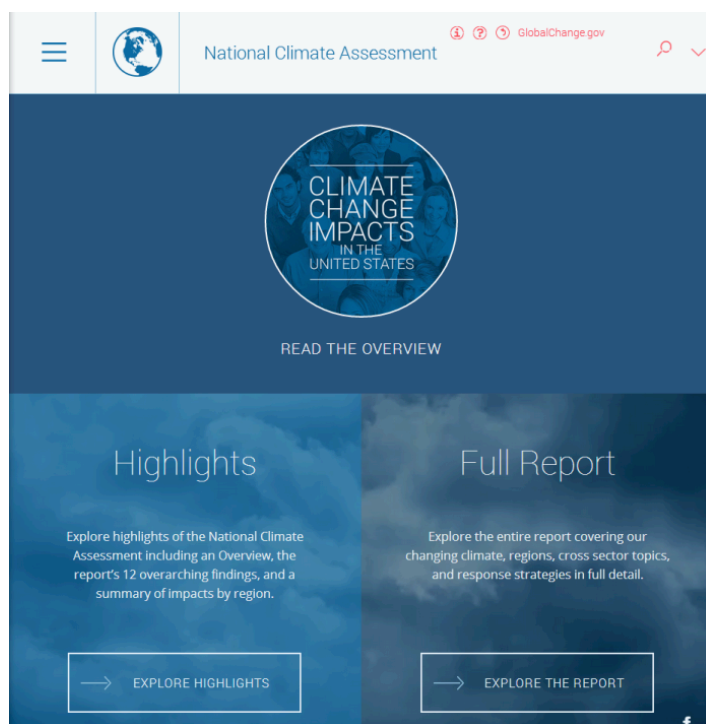


# Comparing Past & Forthcoming NCAs with IPCC

- NCA traditionally focused heavily on domestic impacts and vulnerability similar to IPCC Working Group II (WGII)
- Response chapters have been smaller in scope than IPCC WGIII, but NCA4 expected to delve deeper into adaptation options and (benefits of) mitigation
- For NCA4, a Climate Science Special Report (an IPCC WG I equivalent) will provide physical science foundation
- NCAs traditionally use same global emissions/climate scenarios as IPCC
  - NCA3 based primarily on SRES; NCA4 will be based on RCPs
- Large overlap in authorship and government reviewers



# Building on NCA3



Aspects of NCA3 considered crucial to its success:

- Assessment based on broad scientific and technical inputs
- Stakeholder engagement
- Clear communication principles, accessible web-based report
- Transparent connection between findings and underpinning science (through Global Change Information System)
- Extensive review process



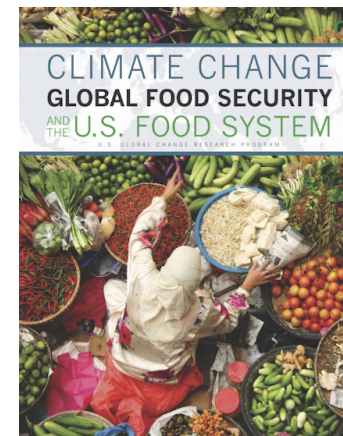
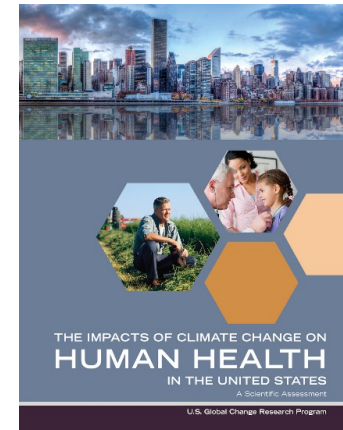
# NCA3 Evaluation for USGCRP in Draft

- Evaluation questions covering:
  - Structure of the NCA Process
  - Inputs and Resources
  - Writing and Review
  - Communication and Group Dynamics
  - Benefits of NCA Engagement
  - Dissemination, Access, and Perceptions of NCA Products
  - NCA Applications and Outcomes
- Evaluation methods include interviews, online surveys, citation analysis, web analytics



## Topical Reports and Special Assessments Supporting NCA4

- Climate Science Special Report (underway)
- Second State of the North American Carbon Cycle Report (underway)
- Climate and Health Assessment (April 2016)
- Food Security Assessment (December 2015)



# NCA4: Opportunities and Challenges

- Greater detail, specificity, and quantitative analyses at regional scales
- Quantification of risk metrics
- More consistency in underlying assumptions and scenarios across all sectors and regions covered by NCA4
- More information about adaptation needs/opportunities and mitigation implications
- Reflecting changes in frequency/intensity of extreme events into potential impacts and risks
- Implications of climate change impacts in other parts of the world
- Maintaining engagement with, and addressing (at least some) needs of, multiple user communities

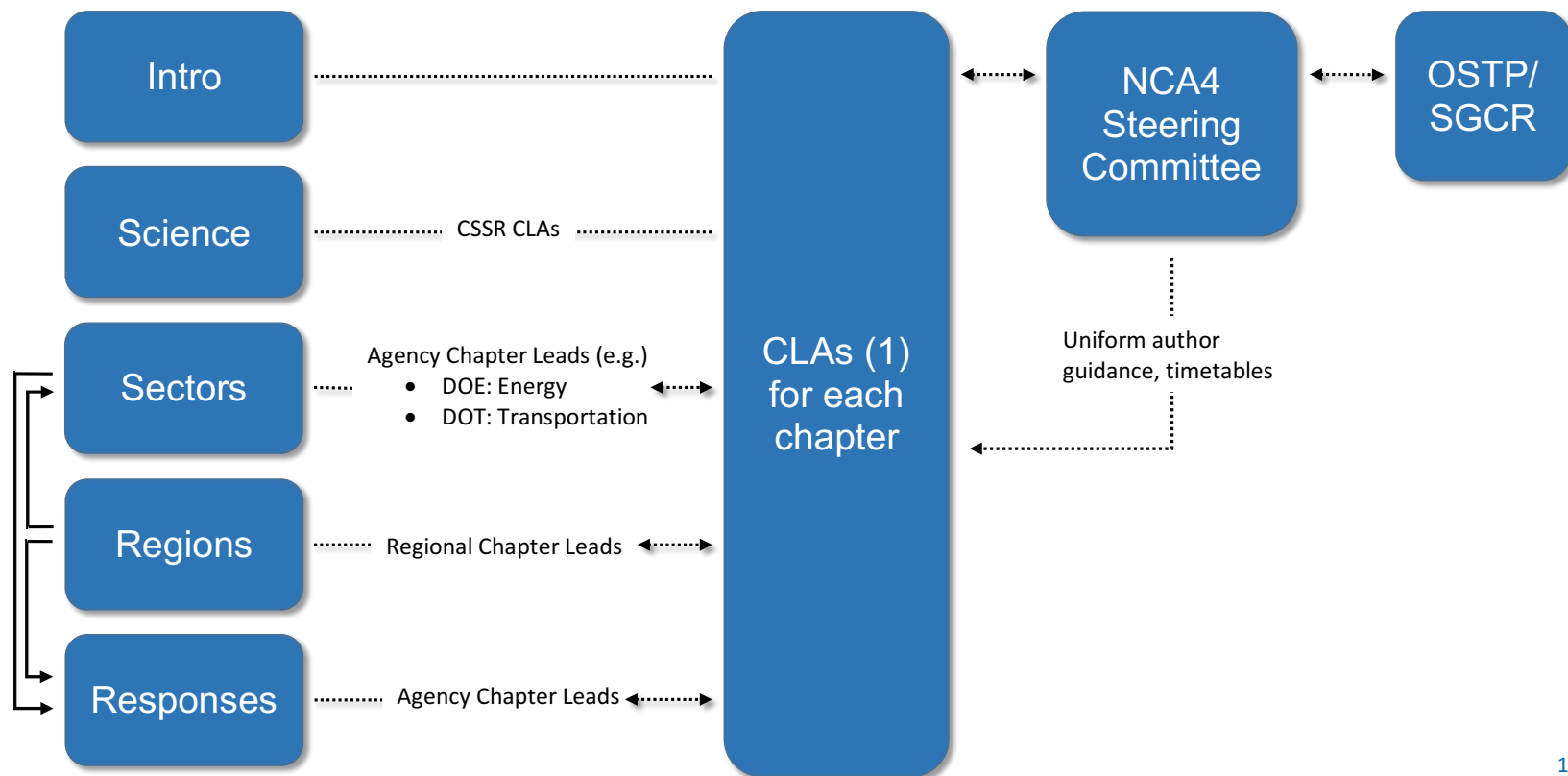




# NCA4: Process Snapshot

- Owned and developed under a Federal Steering Committee appointed by Subcommittee on Global Change Research (SGCR)
- Authorship model for Federal and non-Federal participation developed with NOAA (as administrative lead agency)
- Planned release in late 2018
- Climate Science Special Report underway to provide scientific foundation
- Initial public comment on draft prospectus and outline (closed July 29)
- Open call out now for non-federal regional chapter leads (closes Sept. 30) and technical inputs (closes Jan. 15)

# NCA4 Authorship Model



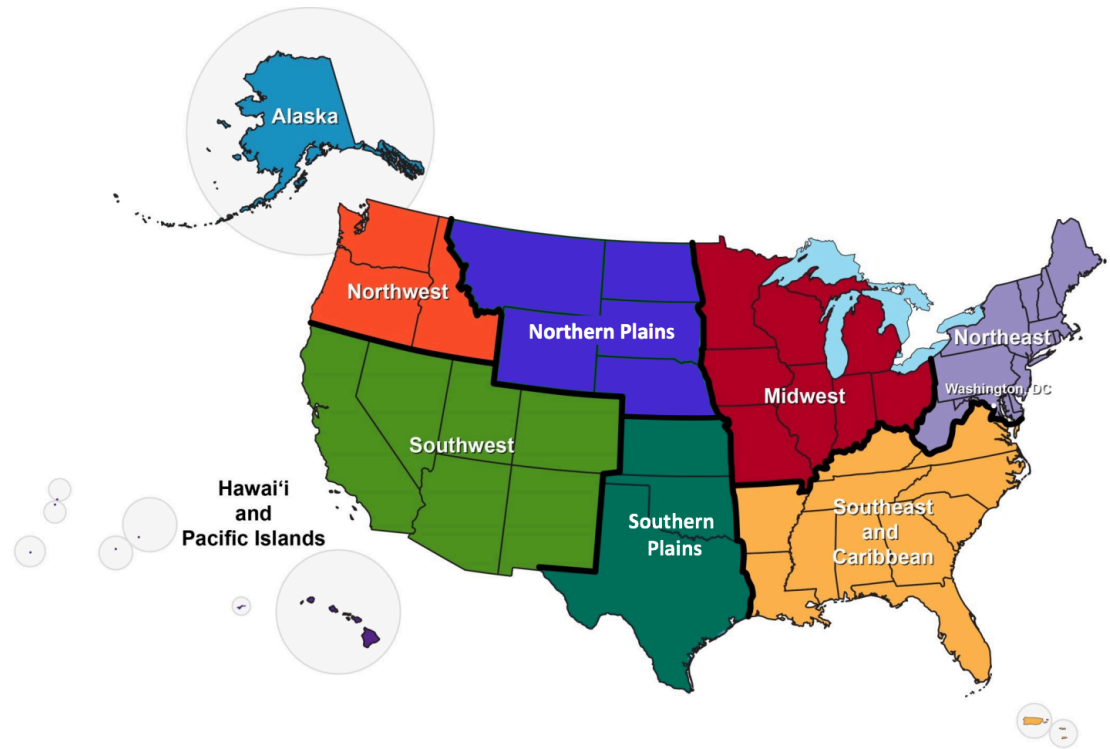
# NCA4 Chapters: working outline

- **I: Overview**
- **II: Our Changing Climate**
- **III: National Analyses**
  - Water
  - Energy
  - Ecosystems, Ecosystem Services, and Biodiversity
  - Oceans and Marine Resources
  - Coastal Effects
  - Agriculture and Food Production
  - Forests
  - Land Cover and Land Use Change
  - Transportation
  - Built Environment, Urban Systems, and Cities
  - Human Health
  - Air Quality
  - Energy, Water, Land Nexus
  - Tribal and Indigenous Communities
  - North American and Other International Effects
- **IV: Regional Analyses**
  - Northeast
  - Southeast and Caribbean
  - Midwest
  - Northern Plains
  - Southern Plains
  - Northwest
  - Southwest
  - Alaska
  - Hawai'i and Pacific Islands
- **V: Responses**
  - Near-term Adaptation Needs and Increased Resiliency
  - Mitigation Pathways: Avoiding and Reducing Long-Term Risks



# Planned Regional Chapters of NCA4

- Where much of the detail is expected
  - Region-specific sectoral focus areas, with case studies
- Driven by non-fed Regional Chapter Leads
  - They choose author teams with suggestions from steering committee via nomination process
  - Will operate with author guidance from steering committee and interact with assigned Federal CLA





2016

**Sep:** Call for Authors

**Sep:** Regional  
Informational  
Webinars

**Sep:** Fed CLAs  
Selected, CLA Meeting

**Oct:** Regional Chapter  
Leads Selected

**Oct-Dec:** Author  
Meetings/Drafting



2017

**Jan:** Release Chapter  
Outlines

**Jan:** Technical Inputs  
are Due

**Jan-Mar:** Regional  
Engagement  
Workshops

**Jan-Jun:** Drafting and  
Internal Reviews

**Jul-Dec:** Report  
Aggregation and  
Cohesion, Internal  
Reviews



2018

Public and  
National  
Academies  
Reviews and  
Response

Layout and  
Production

Release and  
Engagement



# Federal Register Notice

- Call for Authors and Technical Inputs
  - Author nominations open until September 30
  - Regional Chapter Leads must come from call
    - Other nominations will be suggested to chapter leads
  - Technical inputs accepted until January 15
    - For best consideration, submit by November 1
  - **SHARE WIDELY**
- <https://federalregister.gov/a/2016-20982>
  - <http://www.globalchange.gov/notices>
  - <https://contribute.globalchange.gov/>



**FEDERAL REGISTER**  
The Daily Journal of the United States Government

## United States Global Change Research Program (USGCRP)

A Notice by the [National Oceanic and Atmospheric Administration](#) on 08/31/2016



U.S. Global Change  
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# Thank you!

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